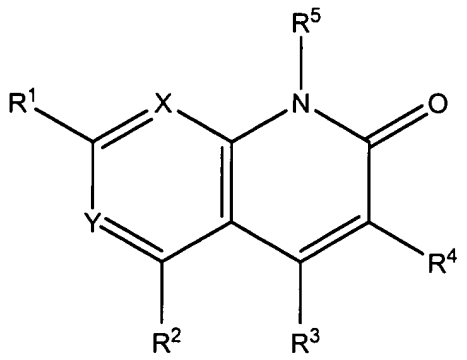
AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1-20. (Cancelled).

21. (Currently Amended) A pyridopyrimidine or a naphthyridine compound of the formula (I):



(I)

wherein

R^1 is a nitrogen-containing heterocyclic group which is optionally substituted by

(i) a lower alkyl group optionally substituted by a group selected from the group consisting of a hydroxy group, a halogen atom and a lower alkoxy group;

(ii) an amino group which is optionally substituted by a group selected from the group consisting of a lower alkyl group optionally substituted by a heteroaryl group, a lower alkyl group optionally substituted by an aryl group, and a lower alkoxy group; or

(iii) an alkoxy group which is optionally substituted by (1) an aryl group optionally substituted by a group selected from the group consisting of a

hydroxy group, a halogen atom and a lower alkoxy group, or (2) a lower alkyl group optionally substituted by a heteroaryl group which may be optionally substituted by a group selected from the group consisting of a hydroxy group, a halogen atom and a lower alkoxy group;

R^2 is a hydrogen atom or a lower alkyl group;

R^3 is (i) a hydrogen atom; (ii)a lower alkyl group which is optionally substituted by a nitrogen-containing heterocyclic group; or (iii) a heteroaryl group which is optionally substituted by a group selected from the group consisting of a hydroxy group, a halogen atom and a lower alkoxy group;

R^4 is (i) a hydrogen atom; (ii) a lower alkyl group; (iii) a carboxyl group esterified with a lower alkyl group; (iv) a carboxyl group amidated with a lower alkyl-substituted amino group which may be optionally substituted by a hydroxy group or a 5- to 6-membered nitrogen-containing heteromonocyclic group optionally substituted by a lower alkyl group; or (v) a carboxyl group amidated with a 5- to 6-membered nitrogen-containing heteromonocyclic group optionally substituted by a lower alkyl group;

R^5 is a lower alkyl group which may be optionally substituted by a group selected from the group consisting of (i) an aryl group optionally substituted by a group selected from the group consisting of a hydroxy group, a halogen atom and a lower alkoxy group;

(ii) a heteroaryl group optionally substituted by a group selected from the group consisting of a hydroxy group, a halogen atom and a lower alkoxy group; and

(iii) a di-lower alkylamino group; and

X is a group of the formula: =CH- and Y is a nitrogen atom, or X and Y are both nitrogen atoms,

or a pharmaceutically acceptable salt thereof.

22. (Previously presented) The compound according to claim 21, wherein X and Y are both nitrogen atoms.

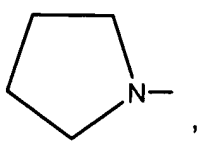
23. (Previously presented) The compound according to claim 22, wherein the nitrogen-containing heterocyclic group for R^1 is a 5- or 6-membered nitrogen-containing heteromonocyclic group or a 8- to 10-membered nitrogen-containing heterobicyclic group, the aryl group for R^5 is a phenyl group and the heteroaryl group for R^5 is a pyridyl group or pyrimidyl group.

24. (Previously presented) The compound according to claim 23, wherein R^5 is a lower alkyl group which may be optionally substituted by a phenyl group optionally substituted by a group selected from the group consisting of a lower alkoxy group, a lower alkylenedioxy group and a halogen atom, a pyridyl group or a pyrimidyl group, which groups are optionally substituted by a group selected from the group consisting of a lower alkoxy group and/or a halogen atom and a di-lower alkylamino group.

25. (Previously presented) The compound according to claim 24, wherein the nitrogen-containing heterocyclic group for R^1 is a 5- or 6-membered nitrogen-containing heteromonocyclic group selected from the group consisting of a pyrrolyl group, an oxazolyl group, a pyrazolyl group, a pyrrolinyl group, a pyrrolidinyl group, an imidazolyl group, a piperidyl group, a piperazinyl group, a morpholinyl group, a pyridyl group, a pyridazinyl group, a pyrimidinyl group, a pyrazinyl group and a triazinyl group,

or an 8- to 10-membered nitrogen-containing heterobicyclic group selected from the group consisting of an indolyl group, an isoindolyl group, an indolydinyl group, a quinolyl group, an isoquinolyl group and a purinyl group; and the amidated carboxyl group for R^4 is a carboxyl group amidated with a lower alkyl-substituted amino group optionally substituted by a 5- to 6-membered nitrogen-containing heteromonocyclic group selected from the group consisting of a pyrrolyl group, an oxazolyl group, a pyrazolyl group, a pyrrolinyl group, a pyrrolidinyl group, an imidazolyl group, a piperidyl group, a piperazinyl group, a morpholinyl group, a pyridyl group, a pyridazinyl group, a pyrimidinyl group, a pyrazinyl group, a triazinyl group, an imidazolidinyl group and a thiazolyl group, each group being optionally substituted by a lower alkyl group, or a carboxyl group amidated with a 5- to 6-membered nitrogen-containing heteromonocyclic group selected from the group consisting of a pyrrolyl group, an oxazotyl group, a pyrazolyl group, a pyrrolinyl group, a pyrrolidinyl group, an imidazolyl group, a piperidyl group, a piperazinyl group, a morpholinyl group, a pyridyl group, a pyridazinyl group, a pyrimidinyl group, a pyrazinyl group, a triazinyl group, an imidazolidinyl group and a thiazolyl group, each group being optionally substituted by a lower alkyl group.

26. (Currently Amended) The compound according to claim 25, wherein the nitrogen-containing heterocyclic group for R^1 is a 5- or 6-membered nitrogen-containing heteromonocyclic group of the formula:



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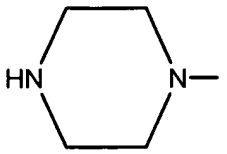

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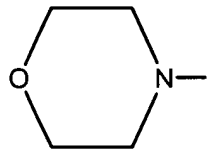

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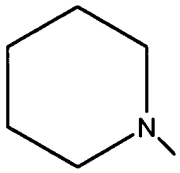

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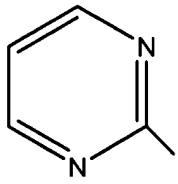

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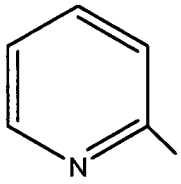
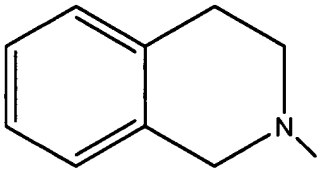


,

or a 8- to 10-membered nitrogen-containing heterobicyclic group of the formula:



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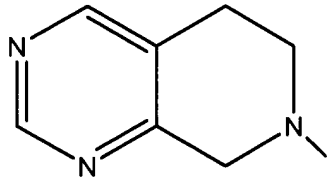
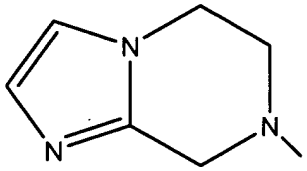
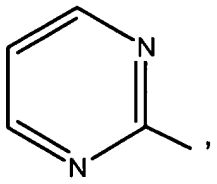


or


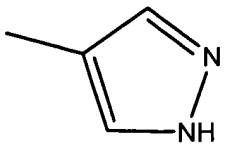
; and

R^4 is a hydrogen atom, a lower alkyl group or a carboxyl group amidated with a group selected from the group consisting of a lower alkyl-substituted amino group which may be optionally substituted by a group of the formula:



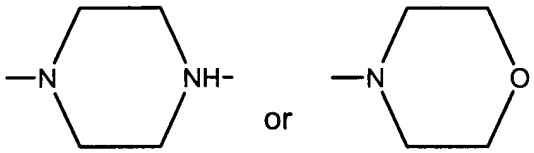
,

an amino group optionally substituted by a group of the formula:



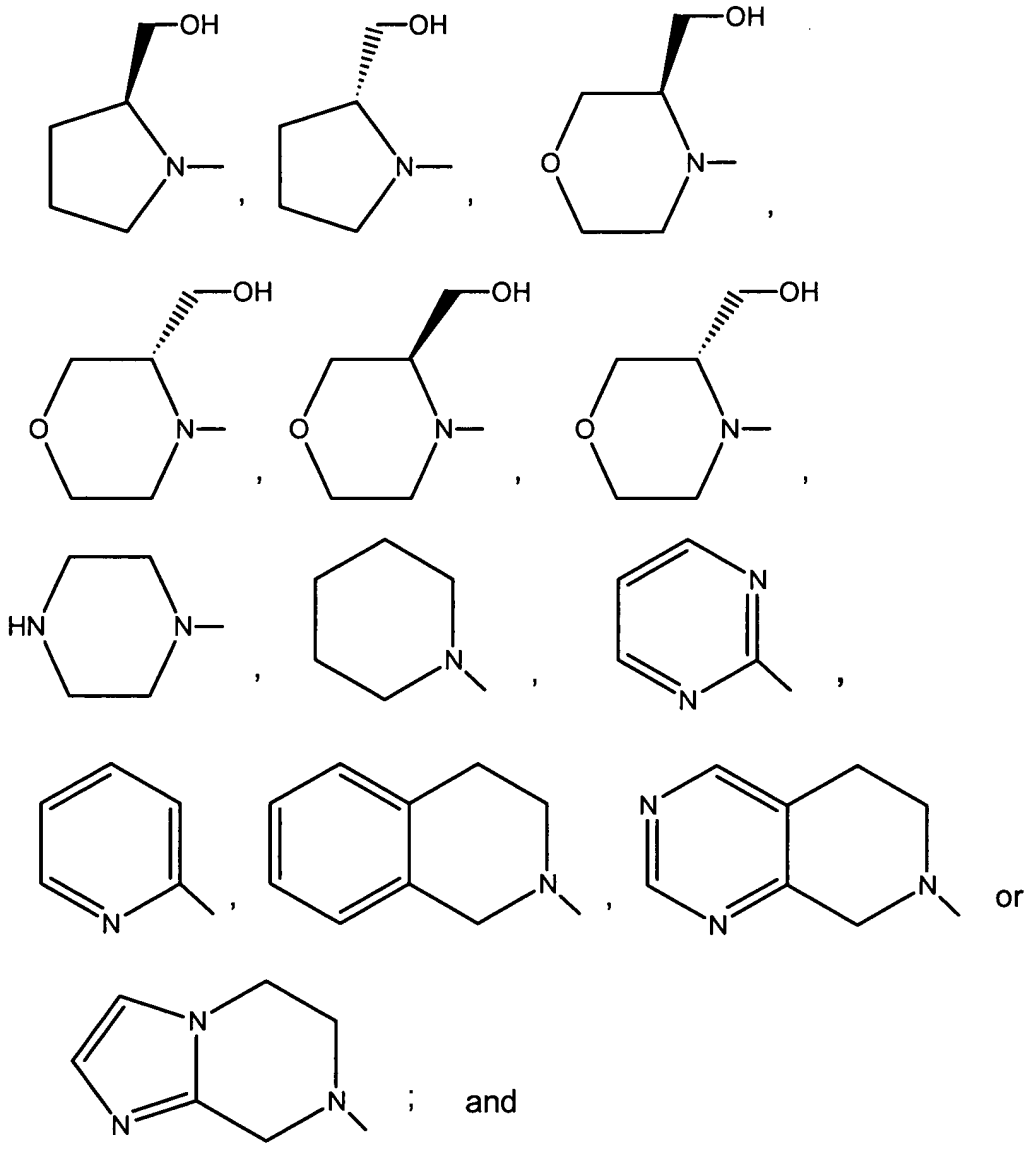
which may be optionally substituted by a lower alkyl group, and

a group of the formula:

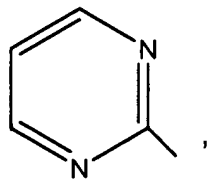


which may be optionally substitute by a lower alkyl group.

27. (Currently Amended) The compound according to claim 26, wherein the nitrogen-containing heterocyclic group, which is optionally substituted by a lower alkyl group optionally substituted by a group selected from the group consisting of a hydroxy group, a halogen atom and a lower alkoxy group, for R^1 is a group of the formula:



R^4 is a hydrogen atom, a lower alkyl group or a carboxyl group amidated with a group selected from the group consisting of a lower alkyl-substituted amino group optionally substituted by a group of the formula:



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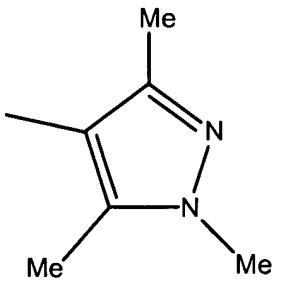
an amino group optionally substituted by a group of the formula:



, and

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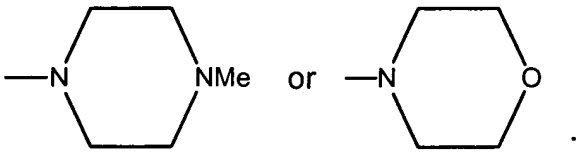
a group of the formula:



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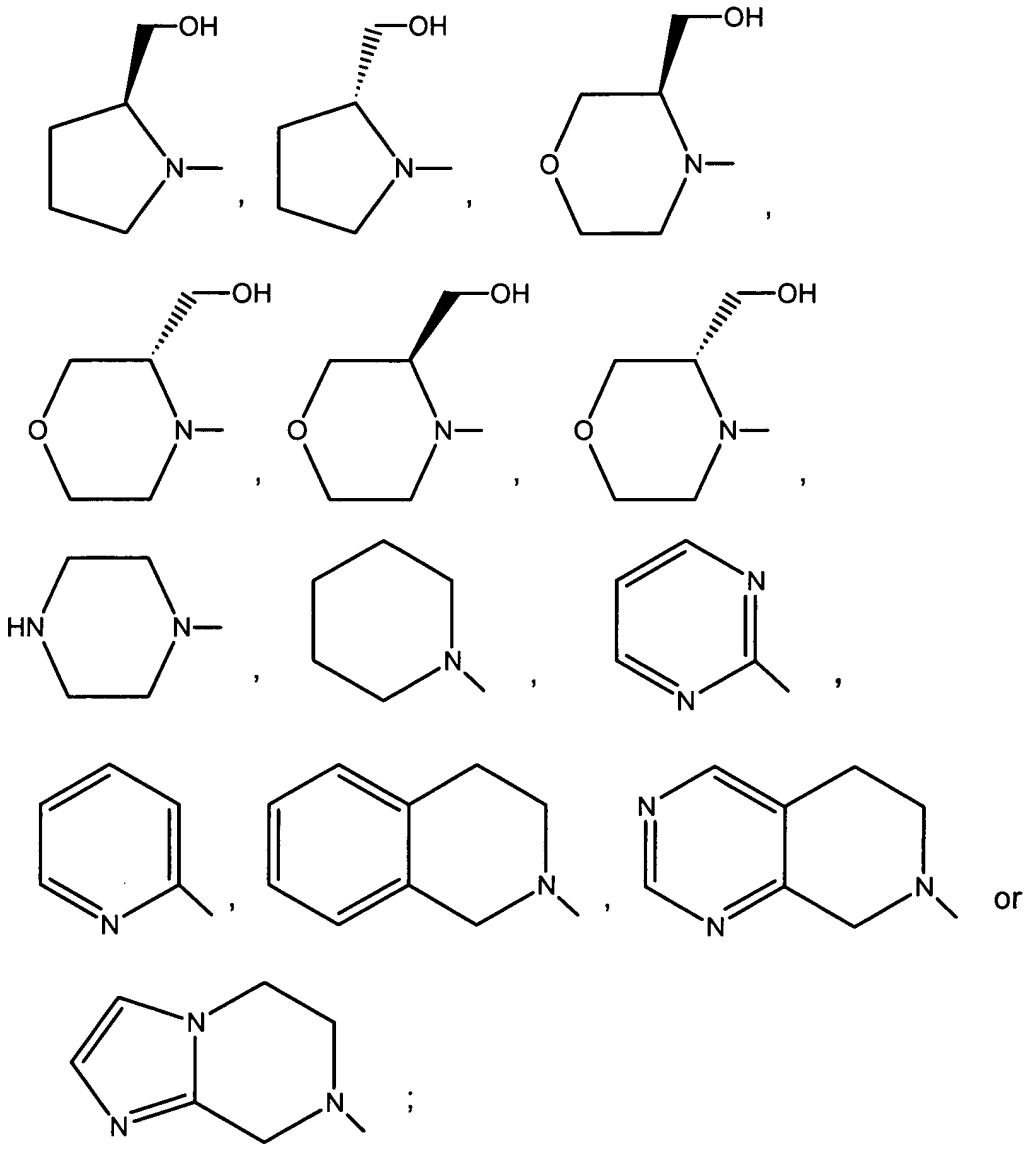
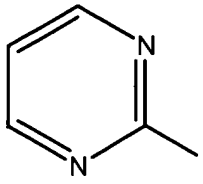
28. (Previously presented) The compound according to claim 27, wherein R^1 is a group of the formula:



R^2 is a hydrogen atom;

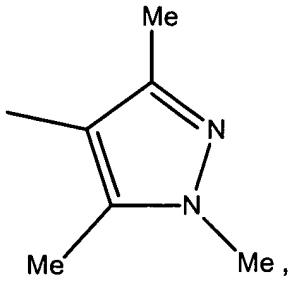
R^3 is a hydrogen atom;

R^4 is a hydroxy group or a carboxyl group amidated with a lower alkyl-substituted amino group optionally substituted by a group of the formula:



or

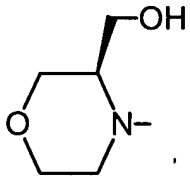
an amino group optionally substituted by a group of the formula:

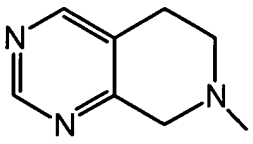


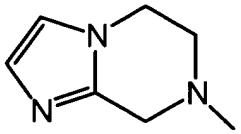
, and

R^5 is a lower alkyl group substituted by a phenyl group optionally substituted by a lower alkoxy group and/or a halogen atom.

29. (Previously presented) The compound according to claim 28, wherein R^1 is a group of the formula:

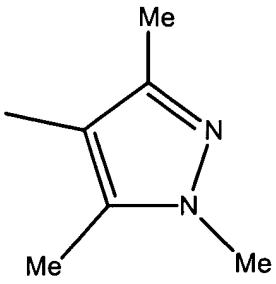


, 

or 

, and

R^4 is a carboxyl group amidated with a lower alkyl-substituted amino group optionally substituted by a group of the formula:



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30. (Previously presented) (S)-2-(2-Hydroxymethyl-l-pyrrolidinyl)-5-[2-(4-morpholinyl) ethyl]-8-(3-chloro-4-methoxybenzyl)-7,8-dihydro-7-oxo-pyrido[2,3-d]pyrimidine;

(S)-2-(2-hydroxymethyl-l-pyrrolidinyl)-6-[N-{4-(1,3,5-trimethyl)pyrazolyl}carbamoyl]-8-(3-chloro-4-methoxybenzyl)-7,8-dihydro-7-oxo-pyrido[2,3-d]pyrimidine;

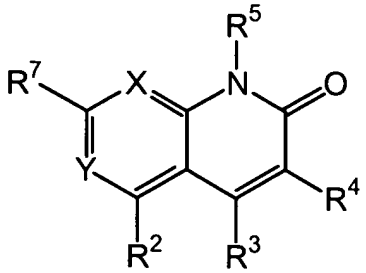
(S)-2-(2-hydroxymethyl-1-pyrrolidinyl)-8-(3-chloro-4-methoxybenzyl)-7,8-dihydro-7-oxo-pyrido[2,3-d]pyrimidine;

(S)-2-(2-hydroxymethyl-1-pyrrolidinyl)-5-methyl-8-(3-chloro-4-methoxybenzyl)-7,8-dihydro-7-oxo-pyrido[2,3-d]pyrimidine;

or a pharmaceutically acceptable salt thereof.

31. (Previously presented) (S)-2-(2-hydroxymethyl-l-pyrrolidinyl)-6-[N-{4-(1,3,5-trimethyl)pyrazolyl}carbamoyl]-8-(3-chloro-4-methoxybenzyl)-7,8-dihydro-7-oxo-pyrido[2,3-d]pyrimidine, or a pharmaceutically acceptable salt thereof.

32. (Previously presented) A pyridopyrimidine or a naphthyridine compound of the formula (VIII):



(VIII)

wherein R^7 is a halogen atom or a group of the formula:

$-SR^9$

wherein R^9 is a lower alkyl group or a phenyl group which may be optionally substituted by a group selected from the group consisting of a lower alkyl group, a hydroxy group, a halogen atom and a lower alkoxy group;

R^2 is a hydrogen atom or a lower alkyl group;

R^3 is (i) a hydrogen atom; (ii)a lower alkyl group which is optionally substituted by a nitrogen-containing heterocyclic group; or (iii) a heteroaryl group which is optionally substituted by a group selected from the group consisting of a hydroxy group, a halogen atom and a lower alkoxy group,

R^4 is (i) a hydrogen atom; (ii) a lower alkyl group; (iii) a carboxyl group esterified with a lower alkyl group; (iv) a carboxyl group amidated with a lower alkyl-substituted amino group which may be optionally substituted by a hydroxy group or a 5- to 6-membered nitrogen-containing heteromonocyclic group optionally substituted by a lower alkyl group; or (v) a carboxyl group amidated with a 5- to 6-membered nitrogen-containing heteromonocyclic group optionally substituted by a lower alkyl group,

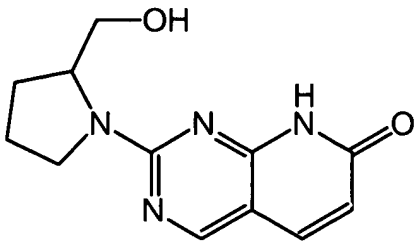
R^5 is a lower alkyl group which may be optionally substituted by a group selected from the group consisting of (i) an aryl group optionally substituted by a group selected from the group consisting of a hydroxy group, a halogen atom and a lower alkoxy group;

(ii) a heteroaryl group optionally substituted by a group selected from a hydroxy group, a halogen atom and a lower alkoxy group; and

(iii) a di-lower alkylamino group; and is a group of the formula: =CH— Y is a nitrogen atom, or

X and Y are both nitrogen atoms, or a salt thereof.

33. (Previously presented) A compound of the formula:



or a salt thereof.

34. (Previously presented) A pharmaceutical composition, which contains as an active ingredient a compound as set forth in any one of claims 21-33, or a pharmaceutically acceptable salt thereof.

35. (Previously presented) A method for the treatment of penile erectile dysfunction, which comprises administering to a patient in need thereof an effective amount of a compound as set forth in any one of claims 21-33, or a pharmaceutically acceptable salt thereof.

36-37. (Cancelled).